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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,160	09/23/2003	Ramin Khoini-Poorfard	75622P004402	2831
22503	7590	06/25/2004	EXAMINER	
DAVIS & ASSOCIATES P.O. BOX 1093 DRIPPING SPRINGS, TX 78620			NGUYEN, LINH V	
			ART UNIT	PAPER NUMBER
			2819	

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

10/670,160

Applicant(s)

KHOINI-POORFARD ET AL.

Examiner

Linh V. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-20 is/are allowed.
- 6) ☒ Claim(s) 1, 6 and 8 is/are rejected.
- 7) ☒ Claim(s) 2-5, 7, 9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 09/23/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

This office action is in response to amendment to specification filed on 10/14/2003, regarding to this application is a continuation of application no. 10/076,087 (US.Patent No. 6639534) filed February 14, 2002.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ozguc U.S Patent No. 5,689,259 (IDS filed on 09/23/03).

Regarding to claim : 1, Fig. 1 and 2 of Ozguc discloses an apparatus for performing digital-to-analog conversion, comprising: first and second current steering digital-to-analog converters (12, 14), each DAC having a first and second output (D5 and BarD5) forming a differential DAC output (OUTP, OUTN) ; and switch circuitry (18, 26, 28, 22), wherein the switch circuitry couples the differential output of at most a selected one of the first and second DACS to a pair of switch nodes (DAC12 with switches 18 and 16, and DAC 14 with switches 28 and 22, See Col. 2 lines 36 – 50 for disclosing the selection of switches 18 and 26 when the sign bit is high, and when the sign bit is low switches 22, and 28 are selected), wherein the differential output of a non-selected one of the first and second DACS is shorted (Fig. 1 and 2 disclosing the

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non selecting differential output D5 and BarD5 of DAC 12 and DAC 14 is shorted on a common line output of each ADC).

Regarding to claim 8 wherein a second output of the first DAC and the first output of the second DAC (D5 and BarD5) are connected at a first common node (20, 24), wherein the first and second switches (18 with 26) share a second common node (output of DAC 12).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozguc as applied to claim 1 above, and further in view of Westra et al. U.S. Patent No. 6,426,715 (IDS filed on 09/23/03)

Ozguc as applied to claim 1 above disclosed every aspect of applicant's claimed invention except for a differential amplifier having a differential input communicatively coupled to the pair of switch nodes.

Fig. 1 of Westra et al. disclose a dual set digital to analog converter (1 and 2, See Coll. 3 lines 44 – 47) having a differential amplifier having differential input communicatively to the pair of switches nodes.

Ozguc and Westra et al. are common subject matter for dual ADC. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention

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was made to incorporated a differential amplifier taught by Westra 's DAC et al. into Ozguc's DAC for the purpose of providing a differential analog output voltage signal (Col 5 lines 41 – 45).

***Allowable Subject Matter***

5. Claims 2 – 5, 7, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 11 – 20 are allowed.


***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (571) 272-1810. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Tokar can be reached at (571) 272-1812. The fax phone numbers for the organization where this application or proceeding is assigned are (703-872-9306) for regular communications and (703-872-9306) for After Final communications.

LVN

06/19/2004

  
**Michael Tokar**  
Supervisory Patent Examiner  
Technology Center 2800